

I. Amendments to the Claims

This listing of claims replaces without prejudice all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An expandable stent comprising:
a proximal end and a distal end in communication with one another,
a tubular wall disposed between the proximal end and the distal end, the
tubular wall having a longitudinal axis and a porous surface defined by a plurality
intersecting members arranged to define a first repeating pattern comprised of a polygon
having:

- (i) a pair of side walls substantially parallel to the longitudinal axis,
- (ii) a single concave-shaped first end wall having a first apex, and
- (iii) a single convex-shaped second end wall having a second apex,
the concave-shaped first end wall and the convex-shaped second end wall connecting the
side walls, at least one of the first apex and the second apex being substantially flat, the
stent being expandable from a first, contracted position to a second, expanded position
upon the application of a radially outward force on the stent;

wherein each the side wall (i) is connected to a corresponding end wall
portion that is substantially orthogonal to the longitudinal axis, and (ii) comprises at least
a flex member connected to at least one straight segment disposed substantially parallel

to the longitudinal axis, the flex member comprising a curved shape, curved in a plane of said pair of side walls.

Claims 2-54 (Cancelled).

55. (Currently Amended) The stent defined in Claim 1, wherein the flex member, in two dimensions, comprises an S shape.

56. (Previously Presented) The stent defined in Claim 1, wherein the flex member, in two dimensions, comprises an U shape.

57. (Previously Presented) The stent defined in Claim 1, wherein the flex member, in two dimensions, comprises at least one lateral section having a round apex.

58. (Previously Presented) The stent defined in Claim 1, wherein the flex member, in two dimensions, comprises a single lateral section, the lateral section comprising a pair of straight segments substantially orthogonal to the longitudinal axis, the straight segments being interconnected by a curved section.

59. (Previously Presented) The stent defined in Claim 1, further comprising a medicinal coating disposed thereon.

60. (Currently Amended) A stent system comprising a balloon catheter having an expandable portion, the expandable portion having disposed thereon the stent defined in Claim + 7.

61. (Currently Amended) An unexpanded stent comprising:
a tubular wall having a series of undulating circumferential portions, each circumferential portion comprising alternating peaks and valleys;
the tubular wall also having a plurality of longitudinal portions connecting said series of undulating circumferential portions to form a porous, cylindrical surface;
a longitudinal portion of said plurality of longitudinal portions connecting a peak in a first circumferential portion with a valley in a second circumferential portion adjacent to the first circumferential portion; and
each of said plurality of longitudinal portions having a flexure member interposed between a pair of straight strut portions which are disposed parallel to a longitudinal axis of the stent, the flexure member, in a non-radial direction of the stent ~~two dimensions~~, comprising a U-shape.

62. (Previously Presented) The stent defined in Claim 61, wherein said flexure member, in two dimensions, has a width less than a width of said undulating circumferential portions when measured on an outer surface of the tubular wall.

63. (Previously Presented) The stent defined in Claim 61, wherein the porous, cylindrical surface comprises a repeating pattern comprised of a polygon having

a pair of side walls substantially parallel to a stent longitudinal axis, and wherein the flexure member is disposed in each of the side walls.

64. (Previously Presented) The stent defined in Claim 63, wherein the polygon further comprises a first wall having a concave shape and a second wall having a convex shape.

65. (Currently Amended) ~~The stent defined in Claim 64, An~~
unexpanded stent comprising:

a tubular wall having a series of undulating circumferential portions, each circumferential portion comprising alternating peaks and valleys;

the tubular wall also having a plurality of longitudinal portions connecting said series of undulating circumferential portions to form a porous, cylindrical surface ;

a longitudinal portion of said plurality of longitudinal portions connecting a peak in a first circumferential portion with a valley in a second circumferential portion adjacent to the first circumferential portion; and

each of said plurality of longitudinal portions having a flexure member interposed between a pair of straight strut portions which are disposed parallel to a longitudinal axis of the stent, the flexure member, in two dimensions, comprising a U-shape,

wherein the porous, cylindrical surface comprises a repeating pattern comprised of a polygon having a pair of side walls substantially parallel to a stent

longitudinal axis, wherein the polygon further comprises a first wall having a concave shape and a second wall having a convex shape,

wherein the flexure member is disposed in each of the side walls, and

wherein at least one of the first wall and the second wall has a flat apex and the other of the first wall and the second wall has a rounded apex.

66. (Previously Presented) The stent defined in Claim 65, wherein the flat apex comprises a pair of rounded shoulders.

67. (Previously Presented) The stent defined in Claim 61, further comprising a medicinal coating disposed thereon.

68. (Previously Presented) A stent system comprising a balloon catheter having an expandable portion, the expandable portion having disposed thereon the stent of Claim 67.

69. (Previously Presented) An unexpanded stent comprising:
a tubular wall comprising:
(i) a series of undulating circumferential portions, each circumferential portion comprising alternating peaks and valleys, and
(ii) a plurality of longitudinal portions connecting said series of undulating circumferential portions to form a porous, cylindrical surface comprising a

repeating pattern comprised of a polygon having a pair of side walls substantially parallel to a stent longitudinal axis, and

wherein a flexure member is disposed in each of the side walls, the polygon further comprising a first wall having a concave shape and a second wall having a convex shape,

at least one of the first wall and the second wall having a flat apex, and the other of the first wall and the second wall having a rounded apex, the flat apex comprising a pair of rounded shoulders;

a longitudinal portion connecting a peak in a first circumferential portion with a valley in a second circumferential portion adjacent to the first circumferential portion; and

each of said plurality of longitudinal portions having a curved flexure member that provides lateral flexibility to said stent and is disposed within each of said plurality of longitudinal portions, each said flexure member, in two dimensions, comprising a pair of substantially straight strut portions disposed substantially orthogonal to a longitudinal axis of the stent, the pair of substantially straight strut portions being interconnected by a curved portion.

70. (Previously Presented) The stent defined in Claim 69, wherein the longitudinal portions are aligned in a spaced relationship parallel to a stent longitudinal axis.

71. (Previously Presented) The stent defined in Claim 69, further comprising a medicinal coating disposed thereon.

72. (Previously Presented) A stent system comprising a balloon catheter having an expandable portion, the expandable portion having disposed thereon the stent of Claim 71.

73. (New) The stent defined in Claim 69, wherein the flexure member curved portion is curved in a tangential plane of said tubular wall.

74. (New) The stent defined in Claim 69, wherein the flexure member curved portion is curved in a non-radial direction of said stent.

75. (New) The stent defined in Claim 69, wherein the flexure member curved portion is curved in a plane of said longitudinal portion..

76. (New) The stent defined in Claim 1, wherein at least one of the first wall and the second wall has a flat apex and the other of the first wall and the second wall has a rounded apex.

77. (New) The stent defined in Claim 76, wherein the flat apex comprises a pair of rounded shoulders.

78. (New) The stent defined in Claim 1, wherein the flex member comprising the curved shape is curved in a tangential plane of said tubular wall.

79. (New) The stent defined in Claim 1, wherein the flex member comprising the curved shape is curved in a non-radial direction of the stent.

80. (New) The stent defined in Claim 1, wherein the concave-shaped first end walls and the convex-shaped second end walls are disposed as a plurality of undulating circumferential portions connected to the side walls.

81. (New) The stent defined in Claim 61, wherein at least one of the first wall and the second wall has a flat apex and the other of the first wall and the second wall has a rounded apex.

82. (New) The stent defined in Claim 81, wherein the flat apex comprises a pair of rounded shoulders.

83. (New) The stent defined in Claim 61, wherein the flexure member comprising the U-shape is curved in a tangential plane of said tubular wall.

84. (New) The stent defined in Claim 61, wherein the flexure member comprising the U-shape is curved in a plane of said longitudinal portion.